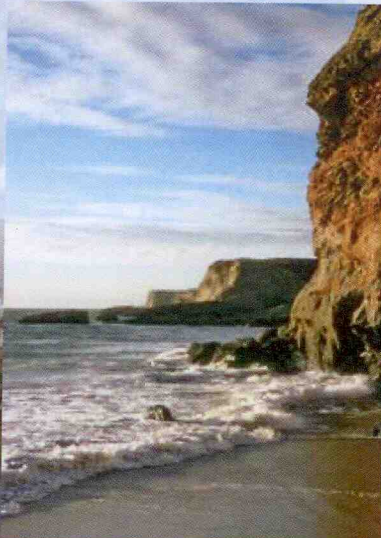


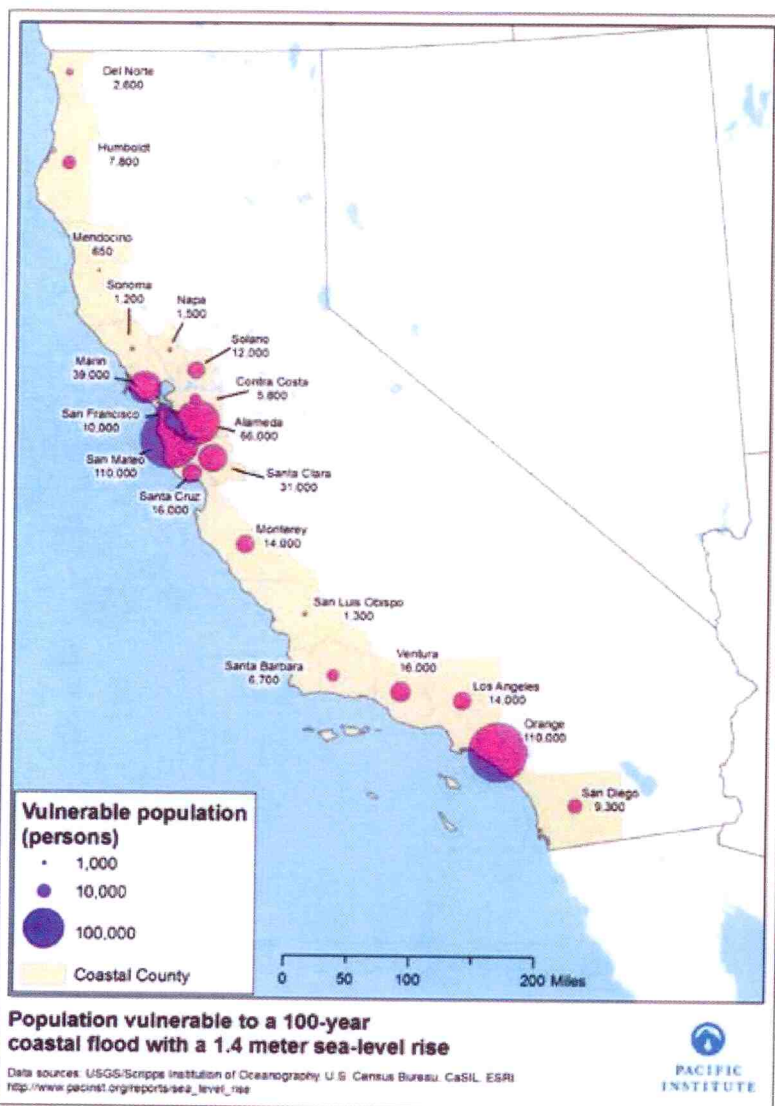
# A REPORT ON SEA LEVEL RISE PREPAREDNESS



Staff Report to the  
California State Lands Commission  
December 2009

REFLECTS CHANGES AND CORRECTIONS MADE BY THE COMMISSION ON DECEMBER 17, 2009.

# Executive Summary



Source: *Pacific Institute Report*, 2009.

and adaptation strategies to lessen the impacts of climate change and sea level rise.

Sea level rise is an issue that has far reaching consequences for California, including the lands under the jurisdiction of the California State Lands Commission (Commission). Sea level rise threatens coastal communities and infrastructure, including transportation facilities; electric utility systems and power plants; storm water systems and wastewater treatment plants and outfalls; vast areas of wetlands; and many other human and natural systems. According to a report by the California Climate Change Center, nearly half a million people, thousands of

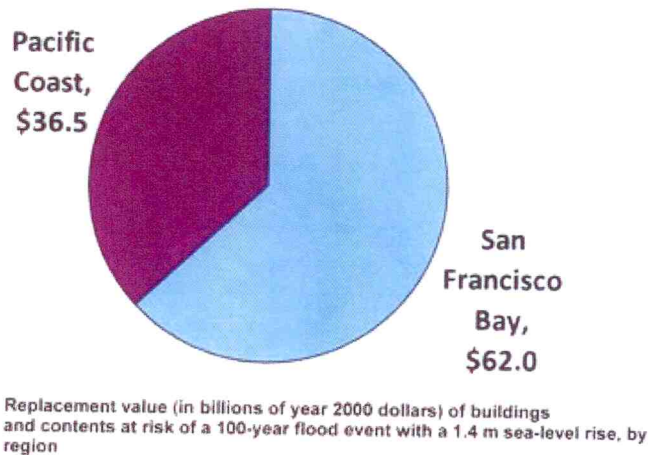
The effects of changes to the atmosphere, including climate change and sea level rise, will have global consequences for the world and the United States. According to a paper prepared by researchers from Scripps Institution of Oceanography, the University of California San Diego, the U. S. Geological Survey, Santa Clara University, the California Department of Boating and Waterways, and Hydro-logic Research Center, sea level is projected to rise 16" by 2050, and 55" by 2100.<sup>1</sup> Efforts are underway at various international, national, and state levels aimed at developing policies, innovative approaches,

miles of roads and railways, major ports, airports, power plants and wastewater treatment plants are at risk from a 100-year flood event as a result of a 1.4 meter (55") rise in sea level.<sup>2</sup> It is believed that, in the coming decades, California will face intensifying climate changes from the amount of emissions already released into the atmosphere.<sup>3</sup>

California is one of the leading states in the nation in addressing the impacts of climate change, including sea level rise. In 1988, under legislative mandate, the California Energy Commission issued a report on the potential impacts of climate change in California. In the late 1990s, under a research program sponsored by the National Oceanic and Atmospheric Administration, the California Applications Program was created at the Scripps Institute of Oceanography to research various aspects of climate change. The California Energy Commission's Public Interest Energy Research (PIER) program was created in 2001 to research potential impacts of climate change in a variety of areas. Executive Orders signed by Governor Schwarzenegger in 2005 and 2008 further direct California to address global warming, climate change and sea level rise. The *2009 California Climate Adaptation Strategy* summarizes the most recent science in predicting potential climate change impacts and recommends response strategies.<sup>4</sup>

Lands under the Commission's jurisdiction are already vulnerable to a range of natural events, including storms and extreme high tides. While some of these lands remain undeveloped, a significant portion have been developed either pursuant to a lease from the Commission or pursuant to a legislative grant to a local jurisdiction. Increased storm intensity and sea level rise may lead to the loss of sandy beaches in some areas along the coast, while some areas may see an increase in the amount of sand deposited on the beach. This, coupled with the potential increase in shoreline protective devices, could reduce or eliminate public access along the coastline.

The Commission has an important role to play in addressing the issue of sea level rise. The primary responsibility of the Commission will most likely be focused on assuring that development of lands managed by the Commission considers the impacts of sea level rise. Without this oversight existing developments could become hazards and important public infrastructure could become threatened, which could have significant economic consequences for California.



Note: Counties with borders on the Pacific coast and San Francisco Bay (e.g. San Mateo) were separated based on the shoreline affected

Source: *Pacific Institute Report*, 2009.